

## 1    **ABSTRACT**

2            A variable frequency decoding apparatus operable in a portable audio  
3    device that can improve the power management is disclosed. The above  
4    apparatus has a decoder and a clock generator that provides the system clock for  
5    the decoder. When a bit stream representing audio compressed data is received,  
6    the decoder simultaneously provides the audio information embedded in the  
7    audio compressed data such as the bit rate and the sampling frequency of the data  
8    frame to the clock generator, and then the clock generator adjusts the clock  
9    signals, which are used by the decoder to restore to the original PCM format, to  
10   match the audio information embedded in the data frame. This audio signal  
11   compression technique can prevent possible output delay and reduce power  
12   consumption as compared with the conventional way that used a fixed sys clock.